I claim the following:

1. A method of identifying and producing modified polypeptides comprising the steps of:

selecting diseased cells from which specific nucleotide sequences may be obtained;

determining an appropriate primer pair to encompass at least a portion of a nucleotide sequence to amplify said nucleotide sequence;

screening cloned nucleotide sequences obtained from said diseased cells for modified sequences to identify sequences that encode said modified polypeptides,

expressing said modified polypeptides, and

comparing said modified polypeptides with amino acid sequences for proteins obtained from non-diseased cells to determine polypeptides having characteristics different from said non-diseased proteins.

2. The method of Claim 1 wherein said selected diseased cells are derived from hemopoietic cells.

3. The method of Claim 1 wherein said selected diseased cells are derived from leukemic leukocytes.

4. The method of Claim 1 wherein said selected diseased cells are derived from human malignancies.

5. The method of Claim 1 wherein the step of expressing said modified polypeptides is realized by expressing a DNA sequence coding for said modified polypeptide in a host cell.

6. The method of Claim 1 wherein said screening step further includes cloning said nucleotide sequence by insertion in an appropriate plasmid, said plasmid being thereafter transformed in an appropriate host.

7. A recombinantly produced polypeptide having interferon activity, being derived uniquely from diseased cells and being a modification of the natural IFN α species.

8. The recombinantly produced polypeptide of Claim 7 wherein said diseased cells are derived from hemopoietic cells.

9. The recombinantly produced polypeptide of Claim 7 wherein said diseased cells are derived from leukemic leukocytes.

10. The recombinantly produced polypeptide of Claim 7 wherein said diseased cells are derived from human malignancies.

11. A recombinantly produced polypeptide having interferon activity, being derived uniquely from diseased cells and being a modification of the natural IFN β species.

12. The recombinantly produced polypeptide of Claim 11 wherein said diseased cells are derived from hemopoietic cells.

13. The recombinantly produced polypeptide of Claim 11 wherein said diseased cells are derived from leukemic leukocytes.

14. The recombinantly produced polypeptide of Claim 11 wherein said diseased cells are derived from human malignancies.

15. A recombinantly produced polypeptide having interferon activity, being derived uniquely from diseased cells and being a modification of the natural IFN γ species.

16. The recombinantly produced polypeptide of Claim 15 wherein said diseased cells are derived from leukemic leukocytes.

17. The recombinantly produced polypeptide of Claim 15 wherein said diseased cells are derived from human malignancies.

18. A recombinantly produced polypeptide having interleukin-2 activity, being derived uniquely from diseased cells and being a modification of the natural interleukin-2 species.

19. The recombinantly produced polypeptide of Claim 18 wherein said diseased cells are derived from leukemic leukocytes.

20. The recombinantly produced polypeptide of Claim 18 wherein said diseased cells are derived from human malignancies.

21. Human leukocyte interferon wherein the interferon has the amino acid sequence from position 1 to position 166 as depicted for Hu-IFN-α001 in FIG. 1.

22. A recombinantly produced polypeptide having interferon activity and comprising the amino acid sequence of Hu-IFN-α001,:

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CysAspLeuProGlnThrHisSerLeuArgAsnArgArgAlaLeuIleLeuLeuAlaGln
 1                          10                          20
MetGlyArgIleSerProPheSerCysLeuLysAspArgHisGluPheArgPheProGlu
                           30                          40
GluGluPheAspGlyHisGlnPheGlnLysThrGlnAlaIleSerValLeuHisGluMet
                           50                          60
IleGlnGlnThrPheAsnLeuPheSerThrGluAspSerSerAlaAlaTrpGluGlnSer
                           70                          80
LeuLeuGluLysPheSerThrGluLeuTyrGlnGlnLeuAsnAspLeuGluAlaCysVal
                           90                          100
IleGlnGluValGlyValGluGluThrProLeuMetAsnGluAspSerIleLeuAlaVal
                           110                         120
ArgLysTyrPheGlnArgIleThrLeuTyrLeuThrGluLysLysTyrSerProCysAla
                           130                         140
TrpGluValValArgAlaGluIleMetArgSerLeuSerPheSerThrAsnLeuGlnLys
                           150                         160
ArgLeuArgArgLysAspEnd
                     166
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23. The polypeptide of claim 22 wherein said polypeptide is derived uniquely from diseased cells.

24. The recombinantly produced polypeptide of Claim 23 wherein said diseased cells are derived from hemopoietic cells.

25. The recombinantly produced polypeptide of Claim 23 wherein said diseased cells are derived from leukemic leukocytes.

26. The recombinantly produced polypeptide of Claim 23 wherein said diseased cells are derived from human malignancies.

27. A pharmaceutical composition for providing interferon therapy to a human comprising an effective amount of the polypeptide of claim 22 admixed with a pharmaceutically acceptable vehicle or carrier.

28. A DNA sequence comprising a sequence coding for the polypeptide comprising the amino acid sequence of human IFN-α001.

29. The DNA sequence according to claim 28 operably linked with a DNA sequence capable of effecting microbial expression of said polypeptide.

30. The DNA sequence according to claim 28 operably linked with a DNA sequence capable of effecting mammalian expression of said polypeptide.

31. The DNA sequence according to claim 28 operably linked with a DNA sequence capable of effecting eucaryotic expression of said polypeptide.

32. A replicable expression vector capable of expressing a polypeptide comprising the amino acid sequence of human IFN-α001 as a mature human leukocyte interferon.

33. The expression vector of claim 32 which is microbial.

34. The expression vector of claim 32 which is mammalian.

35. The expression vector of claim 32 which is eucaryotic.

36. Plasmid pHu-IFN-α001 deposited with the American Type Culture Collection under Accession Number: _____